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ABSTRACT

A study extended a previous study (Sparks and Spirek, 1988) by examining children's individual differences in coping with stressful mass media. The investigation proposed that scores on the Children's Coping Measure (CCM) are related to the intensity of negative affect children experience while watching a frightening program. Eighty-two fifth and sixth graders were the subjects. Results supported the two hypotheses. Children who were categorized as those who prefer voluminous information (monitors) before a stressful event experienced more intense negative affect when provided with low as compared to high levels of information about a suspenseful movie, "The Goonies." Conversely, children who were categorized as those who prefer minimal information (blunters) before a stressful event experienced more intense negative affect when provided with high as compared to low levels of information about the film. Findings suggest parents may need to discover the coping style preferences of their children before they expose them to frightening media. Findings also address theoretical issues in the current literature and hold pragmatic applications for fostering media literacy in children. (Five tables of data are included; 72 references are attached.) (Author/NH)

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THE IMPACT OF CHILDREN'S COPING STYLE ON EMOTIONAL REACTIONS TO A FRIGHTENING MOVIE

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THE IMPACT OF CHILDREN'S COPING STYLE ON EMOTIONAL REACTIONS TO A FRIGHTENING MOVIE

Abstract

The current study extends the work of Sparks and Spirek (1988) by examining children's individual differences in coping with stressful mass media. This investigation proposes that scores on the Children's Coping Measure (CCM) are related to the intensity of negative affect children experience while watching a frightening program. The results supported the two hypotheses. Children who were categorized as those who prefer voluminous information (monitors) before a stressful event experienced more intense negative affect when provided with low as compared to high levels of information about a suspenseful movie, The Goonies. Conversely, children who were categorized as those who prefer minimal information (blunters) before a stressful event experienced more intense negative affect when provided with high as compared to low levels of information about the film. The findings address theoretical issues in the current literature and hold pragmatic applications for fostering media literacy in children.

THE IMPACT OF CHILDREN'S COPING STYLE ON EMOTIONAL REACTIONS TO A FRIGHTENING MOVIE

Recently a great deal of public concern has been expressed in the popular press about the effects of violent (Bush, 1991; "Guiding", 1990; "Kids", 1991; Landers, 1991; Mitchard, 1992; Plagens, Miller, Foote & Yoffe, 1991; "Police", 1990; "Sherwood", 1991), frightful (Faivelson, 1987; Rogers & Sharapan, 1991) or otherwise stressful mass media (Bair, 1991; Brodt, 1985; Gilfelther, 1991; Rensin, 1992; "R-rated", 1990; "War", 1991) on the emotional well-being of children in the United States. The stress-inducing mass media content that has led to this current public concern ranges from television news coverage of the recent riots in Los Angeles and the war in the Persian Gulf to horror films. In fact, parents and educators have noted that news coverage of the Persian Gulf War (DeLater, 1991), the NASA space shuttle explosion (Griffin & Papajohn, 1985; Witt & Ogintz, 1985) and natural disasters like Hurricane Hugo and the October 17, 1989 San Francisco earthquake are capable of eliciting intense disturbances in children (Cantor, 1989; 1991). Movies like Nightmare on Elm Street, Friday the 13th, and The Day After (a television movie about nuclear war) are also frequently mentioned as typical of the sorts of films that induce strong, negative emotional reactions in these young viewers (Cantor, Wilson & Hoffner, 1986; Palmer, 1986).

Children's exposure to these emotionally upsetting media images appears to be increasing (Sparks, 1986b). Several elements could be contributing to this trend: a) the increasing proliferation of multi-channel cable television systems that offer special movies (Baruch,

1989), b) home VCR use and the rapid spread of video rental outlets (Cohen, Levy & Golden, 1988; Lin & Atkin, 1989), c) Hollywood's tendency over the years to produce increasingly graphic and grotesque images (Cantor & Wilson, 1988; Wilson, 1989a) and d) live television broadcasts of disasters and tragedies (Brodt, 1985; Darling & Richmond, 1992; also see Meyrowitz, 1985, for a general discussion of the implications of live television broadcasts).

The prevalence and intensity of children's mass media-induced fright reactions has stimulated some programmatic research on the ways in which children can effectively cope with these emotional disturbances. One major focus of much of the research on children and media-induced fear has been on the relative effectiveness of various coping techniques (Wilson, 1989a, 1989b). Cantor and Wilson's recent review (1988) of the literature in this area revealed that multiple studies have examined the use of video presentations that were designed to reduce children's fear of specific media content (e.g., Cantor, Sparks & Hoffner, 1988). Other studies have investigated the effectiveness of verbal coping strategies that might be more easily implemented by children's caregivers and applied to a wide range of media content (e.g. Cantor & Hoffner, 1990; Hoffner & Cantor, 1990; Spirek, in press; Wilson, Hoffner & Cantor, 1987).

Although this research on the effectiveness of various coping strategies for children's media-induced fright has produced insights, several important questions have not yet been addressed. First, the studies that have been published thus far have tended to focus on the child as a member of a general developmental group rather than as an individual (Spirek, 1991). The typical approach has been to identify

coping techniques that might be more effective for children at certain levels of cognitive development. For example, multiple studies have noted that older children, who are able to distinguish between fantasy and reality, might be helped by a message that classifies a threatening stimulus as "not real" (Cantor & Wilson, 1984; Wilson & Weiss, 1991), while such messages have been shown to be less helpful for younger children. Second, other coping studies have examined desensitization techniques that are critiqued as either being ineffective or effective. Why these coping techniques work for some children but not other children within the same treatment condition (e.g. within the rehearsed verbal explanation or within the no treatment condition) has not been explored. The limitation of these two approaches is that these levels of analyses ignore the individual differences that may exist between children within the same developmental level or treatment group. These individual differences have been well documented in adult populations and will be examined below.

Unlike the studies that have examined children's media-induced fear, adults' personality or individual differences and mass media reactions has emerged as an increasingly popular theme in the frightening film literature. Arousability (Sparks, Spirek & Hodgson, 1992), sensation-seeking, machiavellianism (Tamborini & Stiff, 1987), enjoyment of frightening films (Sparks 1986b; Spirek, 1989) and the desire to see destruction (Tamborini, Stiff & Zillmann, 1987) are four examples of the many individual differences that have been recently examined in relationship to viewing horror films. Of particular interest to the frightening media research proposed here is the work of Miller, who has

investigated the individual difference of coping style for dealing with stress.

Miller (1987) observed that individuals differ according to their preferred ways of coping with threatening events. These coping style differences seemed to be related to the individual's willingness to seek out information about threatening situations. In order to systematically examine these information preferences and test the blunting hypothesis (Miller, 1981), Miller developed a scale that differentiates between individuals' preferences for information about an upcoming threatening situation (Miller, 1987). The Miller Behavioral Style Scale (MBSS) classifies individuals into one of two coping styles on the basis of their responses to four independent stressful scenarios.

A host of studies have shown the MBSS to be a reliable and valid measure that identifies "monitors" and "blunters" and lends support to the blunting hypothesis (Miller, 1981, 1983; Miller & Grant, 1979). The blunting hypothesis posits that before encountering a stressful situation, monitors are expected to feel the greatest anxiety when information is not available. Blunters are expected to feel the greatest stress when they are not able to distract themselves. In other words, monitors prefer voluminous information in the face of a stressful event while blunters prefer low amounts of information. If blunters receive extensive amounts of information about an upcoming stressful event, the coping process becomes more difficult than under conditions where low levels of information are received prior to the individual's interaction with the stressful situation. In a similar vein, if monitors receive low levels of information about an upcoming stressful event, coping is more

difficult than under conditions where high levels of information are received.

Sparks and Spirek (1988) tested the utility of the blunting hypothesis by exposing monitors and blunters to a frightening movie and by examining their self-reported reactions to a stressful newscast. Before encountering a stressful situation then, monitors were expected by Sparks and Spirek to feel the greatest anxiety when information was not available. Blunters were expected to feel the greatest anxiety when they were not able to distract themselves. Two studies, one that examined emotional responses to Nightmare On Elm Street and a second that examined emotional responses to the news broadcasts of the space shuttle Challenger's explosion, provided support for both of the hypotheses.

A second study (Sparks, 1989) that investigated adults' MBSS scores and negative affective responses to frightening media built upon the work advanced by Sparks and Spirek (1988). This experiment tested the relationship between individuals' preferred monitoring or blunting coping styles and their relationship to varying amounts of information provided in a scary movie audio forewarning. A 2 x 2 design was employed with the preferred coping style (monitor vs. blunter) comprising the first independent variable. The degree of forewarning about the frightening movie clip was varied at two levels (high vs. low) which comprised the second independent variable. As predicted, an interaction effect emerged for adults' preferred coping style (as measured by the MBSS) and the high or low level of information about the frightening film shown, When A Stranger Calls. Thought listings, self-reports and skin conductivity all confirmed the author's hypothesis. Monitors experienced the greatest

negative affective intensity in a low forewarning treatment in which they viewed a horror film. In contrast, blunters experienced the greatest negative affective intensity in a high forewarning treatment in which the same scary film was shown.

Children's Coping Responses

As noted earlier, mass media investigations with children have not integrated the important research on coping with stress that is found in studies that have examined adult participants. The full scope of this limitation is even more apparent when one considers the more recent research that utilizes the distinction between monitoring and blunting to study adults' emotional reactions to frightening media (Sparks & Spirek, 1988; Sparks, 1989). Children's monitoring and blunting preferences are basically unexplored topics. This is not without due cause. The MBSS is only appropriate for distinguishing between adult monitoring and blunting preferences because some of the stressful scenarios (e.g. being fired from one's job) and behavioral options (e.g. drink an alcoholic beverage) are not appropriate for children. Until recently, a scale equivalent to the MBSS, yet appropriate for children, did not exist. Spirek (1992) developed such a children's monitoring and blunting measure. This monitoring and blunting scale, or the Children's Coping Measure (CCM), is similar to the MBSS but its objective is to measure children's as opposed to adult's coping strategy preferences. The CCM consists of five stressful situations and can be administered by an interviewer or the scale can be self-administered by older children. The first studies with the scale provided evidence for adequate reliability and validity (Spirek, 1992).

Given the recent creation of the CCM and the deficiencies in the literature on children and frightening media, this study seeks to address the question: Do children have characteristic tendencies toward monitoring and blunting that might affect the way they cope best with frightening mass media? Children between 7-years and 12-years of age are an especially important group to target for this research. Several studies (Cantor, 1989; Cantor & Sparks, 1984; Sparks, 1986b; Wilson & Weiss, 1991) suggest that children in this age range may be particularly sensitive to a wide range of stressful media content because they have developed the ability to distinguish between some mediated situations that could occur in the real world. For example, research by Sparks (1986b) demonstrated that children in the 8 to 12-year age range acquire the skill to recognize that some events might really happen -- but these same children often have little experience coping with some of the harsh realities that the images present. Moreover, children in this age range might not have the ability to make accurate judgements of the likelihood of a stressful event actually happening to them. In many cases they may turn to over estimate a stressful events' likelihood.

Given the above, the study reported below examines children's personality differences and their relationship to children's coping techniques for negative affective responses induced by the mass media. Specifically this study investigates the relationship between the scores on the Children's Coping Measure (CCM) and children's affective responses to a scary movie clip. Two hypotheses are proposed.

H1: Children who are monitors will experience more intense negative affect from viewing a frightening program when they are provided a low as compared to a high level of information about the movie they are about

to view.

H2: Children who are blunters will experience more intense negative affect from viewing a frightening program when they are provided a high as compared to a low level of information about the program they are going to view.

In order to test these two hypotheses, a mail survey and a laboratory experiment were conducted. The purpose of the mail survey was to identify children who were monitors and blunters. The purpose of the experiment was to directly test both H1 and H2.

Method

Subjects

All of the parents of students enrolled at a midwestern middle school during spring of 1992 and listed in the school's directory (N = 286) were mailed materials requesting that their child be a participant in a study investigating children's emotional responses to television programs. If the parent signed a permission letter to signify their willingness to have the child volunteer as a participant in both a survey and an experiment, the parent then handed their child a student consent form and the CCM. Volunteers mailed the signed parent permission letter, signed student consent form and the CCM to the investigator in a self-addressed stamped envelope provided in the mailed materials.

A total of 90 packets were returned (31%) and 82 children were eligible to participate.[1] The distribution of the eligible children's sex and age varied only slightly across the fifth and sixth grades (fifth: 10-year olds -- 10 males, 10 females; 11-year olds -- 12 males, 11 females) (sixth: 11-year olds -- 8 males, 11 females; 12-year olds -- 10 males, 10 females).[2]

Design

In a 2 X 2 design, the participants in the experiment individually viewed the same film clip from the movie The Goonies.[3] The preferred coping style (monitoring vs. blunting) of the participants was the first factor. The second factor, the degree of forewarning about the upcoming movie scene was varied at two levels: low and high.[4] The announcer said the following in the low forewarning version:

> The Goonies is the name of a group of seven kids who are best friends. In the scene you are about to see, the Goonies enter a cave to try to find some treasure that they think may be inside.

In the high forewarning version of the tape, the announcer said:

> The Goonies is the name of a group of seven kids who are best friends. In the scene you are about to see, the Goonies enter a cave to try to find some treasure that they think may be inside. As they follow the twisting dark cave, the Goonies are obviously nervous about what they might find. Suddenly they come upon the skeleton of Chester Copperpot, a person who had entered the cave fifty years earlier looking for treasure. But Copperpot had never returned from the caverns and now the Goonies see his remains. The kids snatch Copperpot's candles and one of the Goonies, named Data, begins to set booby-traps so that anyone who might be following them couldn't get very close. The six kids are worried that they are being chased by a gang of crooks who also want to find the treasure.
>
> But as Data begins to set the booby-traps, another one of the kids, named Mikey, accidently pulls a string which causes big rocks to fall all around the Goonies. The kids manage to get out of the way of the falling rocks but they also hear a strange noise -- no one in the group knows what is making the sound.
>
> In an attempt to find the cause of the unusual sound, one of the Goonies moves a large rock even though his friend tells him not to move it. A flock of bats fly out from behind the rock and really scare the Goonies.

Dependent Measures

The dependent variable of fear was operationalized with two distinct methods. Self-report measures of affective responses were collected after the stimulus tape was shown. The physiological responses of heart rate, skin conductance, and body temperature were also recorded as indicators of the dependent variable. These three physiological measures were recorded while the participants watched the videotape. Each of these three physiological measures has been adopted in multiple studies that specifically measured fear. Typically an increase in heart rate (Acosta & Vila, 1990; Dimberg, Fredrikson & Lundquist 1986; Craske, Street, Jayaraman & Barlow, 1991; Richards & Martin, 1990) or skin conductance (Foa, McNally, Steketee & McCarthy, 1991; Hugdahl & Johnsen, 1989; Levis & Peterson, 1990; Sparks, 1991) is utilized as an indicator of increasing fear whereas a decrease in skin temperature (Bugental & Cortez, 1988; Hirota & Hirai, 1986; Hoffner & Cantor, 1990) indicates increased arousal and is often taken as a fear response in studies of frightening media.

Procedure

Participants were individually run through the experimental procedure. Each student was greeted by a female experimenter who asked the child to be seated at a desk where the children's permission slip was placed. The experimenter read the child permission form aloud to the child and 82 of the 83 children agreed to participate and signed the student consent form.[5] The participating student was then escorted to a chair in front of the television screen. Four electrodes were used to measure the three physiological responses and were attached to the child's hand and the experimenter asked the child to keep this hand as still as

possible. The same 10 minute videotape stimulus was then shown to each of the children.

The first videotape segment was of nature scenes and this clip served as the baseline video segment. The video portion of the second part of the videotape consisted of ten static colored bars. The audio portion of the videotape at this time varied during this period according to the level of forewarning assigned. Consistent with the forewarning experiments conducted by Cantor, Ziemke and Sparks (1984) and Sparks (1989), the length of the forewarning messages differed but the length of time between the baseline farm scene to the opening scene of The Goonies clip was equal for both of the forewarning variations. The current study's operationalization of low vs. high forewarning was similar to one used in an experiment completed by Sparks (1989) in that the actual amount of plot information was the focus of the manipulation. At the conclusion of The Goonies movie clip, the electrodes were removed from the child's hand.

In the final segment of the experimental procedure, the experimenter asked the child to be seated with her at a second table where a tape recorder was visably displayed. The experimenter then asked the child a series of questions. In concluding the experimental procedure, the experimenter took special care to make certain that each child left the experiment in a positive mood.

Equipment

Skin conductance, body temperature and heart rate were measured with a COMPAQ computer using the Chartrecorder software package, the J & J GSR and temperature Preamp (Model IG-3), the IBS Pulse Rate Monitor (Model

CT-1600), a data conversion software program specifically written for this study, and the DIG-880 Microcomputer Interface (Bio-Medical Instruments). The system sampled each of the three physiological channels once per second. A Sharp RD-664AVI tape player recorded all of the children's interviews on 3M AVX 60 Professional Audio Cassettes.

Results

Monitoring and Blunting Classification

In order to test the predicted interaction between children's preferred coping style and level of forewarning, participants were classified as either a monitor or a blunter according to their score on the CCM. The CCM coping preference score can be calculated according to two procedures.[6] For this experiment, the monitoring and blunting preferences for each student were computed by subtracting the total number of blunting items circled "yes" across the five scenarios from the total number of monitoring items circled "yes" across the five scenarios. The sample's difference scores were transformed to z-scores and a median split was conducted. Participants were classified as monitors if their score fell above the median. Participants were classified as blunters if their score fell below the median. The monitoring and blunting subscale means and standard deviations for each of the four experimental conditions are provided in Table 1.

Insert Table 1 Here

Preliminary Analysis

Prior to the main analyses, the separate effects of two different variables on the dependent measures were investigated using ANOVA: a) sex and b) prior exposure to the selected movie, The Goonies. Only prior exposure to The Goonies was related to the dependent measures. For example, prior exposure (0 = no exposure, 1 = exposure) was inversely related to ratings of "scariness" that were solicited at the conclusion of The Goonies ($r = -.38$, $p<.01$; $N = 82$). Children who had seen the movie before ($n = 11$) tended to report lower levels of "scariness". A second reason why prior exposure was selected as a covariate was because prior exposure could have influenced the participants' amount of information about the scene before being assigned to a forewarning condition. Consequently, unless otherwise noted, any ANOVA employed prior exposure as a covariate. This variable was also taken into account in other analyses, as described below.

Self-Report Responses

All of the participants answered four questions by responding to four Likert scales that ranged from "0" (i.e. not at all) to "9" (i.e. very much or a lot). A 2 x 2 analysis of covariance for unequal cell size with the covariate of prior exposure was performed on each of the four questions. The coping preference comprised the first factor and forewarning comprised the second factor. A significant difference in the predicted direction was found for one of the four questions.

Statistically significant differences emerged for the question, "How scary was The Goonies scene that you just saw?" (SCARY). No main effects for either coping preference or level of forewarning emerged in the

analysis. However, as predicted, there was a significant interaction between these two variables [$F(1,77) = 11.99$, $p<.01$; $eta^2 = .16$; unless otherwise noted, the estimated power values for detecting small, medium, and large effects at the .05 level were .10, .40, and .85 respectively (Cohen, 1988)]. Table 2 shows the adjusted cell means. As the table reveals, monitors described the movie segment as being more scary in the low forewarning condition as compared to the high forewarning condition. While there was a tendency for blunters to rate the high forewarning condition as more scary, this was not significant.

A significant difference did not emerge for the questions "how much would you say you enjoyed watching The Goonies" (ENJOY) or for "how nervous did The Goonies make you feel" (NERVOUS). Likewise, as shown in Table 2, no significant difference emerged for the question "how scared did The Goonies make you feel" (YOUSCARED).

Insert Table 2 Here

One open-ended question addressed the children's affective state. This question was coded by two female coders for the absence (coded with a "0") and presence (coded with a "1") of negative affect. Both of the coders were provided with a sheet of instructions for coding the data and both of the coders were blind to the participants' coping preference and forewarning condition. Adequate coding agreement was reached between the two raters with a Cohen's Kappa of .96 (Kvalseth, 1989). For this question about the children's affective states, two frequency analyses were computed (one for monitors and one for blunters). For each of the

coping preference analyses the absence and presence of negative affect for each of the two forewarning levels (low vs. high) was recorded. A chi-square statistic was then computed for each of the coping preferences. In order to take account of prior exposure for each of the chi-square statistics, 11 children (5 blunters and 6 monitors) were removed from the sample of participants. Each of the 11 children said they had viewed The Goonies before arriving at the experimental session. Unless otherwise noted, these 11 children were excluded from all chi-square analyses.

The open-ended question asked the children how they felt while they were watching The Goonies tape. The distribution of responses across the two levels of forewarning produced an overall chi-square statistic that was significant for the blunting group [$X^2 = 6.30$, 1 df, $p<.01$]. As predicted, the participants in the blunting group who were assigned to the low forewarning condition were less likely to report having experienced negative affect while watching The Goonies than were the blunters who were assigned to the high forewarning condition. As shown in Table 3, the distribution of monitors' responses did not produce a significant chi-square statistic.

Insert Table 3 Here

The children were also asked if they would have liked the announcer to provide additional information about The Goonies. Responses to this question were coded with a "0" for no additional information or a "1" for more information. A 2 X 2 chi-square analysis was computed for the monitors and then for the blunters. A significant relationship emerged

with the monitors [X^2 = 5.46, 1 df, $p<.02$] as shown in Table 4. Consistent with the hypothesis, monitors in the low forewarning condition were more likely to prefer additional information than the monitors in the high forewarning condition who tended to report that no additional information was desired. A significant relationship was not found with the blunters because almost all of them preferred no additional information regardless of the forewarning condition.

Insert Table 4 Here

Skin Conductance

A baseline skin conductance score was computed for each participant by recording the maximum skin conductance value generated during the baseline video of the nature scenes. The maximum skin conductance value that emerged during The Goonies clip was also recorded. The baseline maximum skin conductance value was subtracted from The Goonies maximum skin conductance value in order to produce a difference score in micromho units. Higher difference scores indicated higher levels of arousal relative to the baseline segment.

A 2 X 2 analysis of covariance for unequal cell size was conducted on the skin conductance difference scores associated with the movie. The monitoring or blunting coping preference and the forewarning condition were the two independent variables. Prior exposure was the covariate. Table 5 displays the mean skin conductance increase from baseline. No main effects emerged for either of the independent variables. However, as predicted, a significant interaction between the monitor-blunter

status and level of forewarning for the film emerged [$F(1,73) = 13.69$, $p<.01$; $eta^2 = .18$; unless otherwise noted, the estimated power values for detecting small, medium, and large effects at the .05 level were .10, .40, and .85 respectively]. Monitors experienced the greatest amount of fear (increase in skin conductance) in the short forewarning condition and the blunters experienced the greatest amount of fear in the long forewarning condition (see Table 5). Similar analyses for heart and skin temperature revealed no significant differences.

Insert Table 5 Here

Discussion

The study garnered some support for the two hypotheses. While not all of the analyses supported these two hypotheses, there was evidence from both self-report and skin conductance data that provided encouraging evidence for both the first and second hypothesis. In summary, the evidence generated from the study supported the notion that children do differ according to their preferred coping style and that coping style is an important consideration when predicting and understanding children's fear responses to the mass media. The results of the study are discussed below.

Self-Report Responses

First Hypothesis

Consistent with the first hypothesis, the monitors in the low forewarning condition as compared to the high forewarning condition, were more likely to describe The Goonies as scary. This finding is especially

interesting when one notes that a significant difference did not emerge when the students indicated on Likert scales how scared The Goonies made then feel. The students were more willing to describe the movie as scary than they were willing to admit that they felt scared. This distinction highlights the importance of the wording on questions about negative affect that are designed for children. Social norms may have inhibited children's reports of being personally scared or afraid.

The first hypothesis was also supported with the monitors' responses to a second question. This question asked the children if they would have liked the male announcer to provide them with additional information about The Goonies segment. Monitors in the low forewarning condition were more likely to prefer additional information than the monitors in the high forewarning condition.

Second Hypothesis

In support of the second hypothesis, the blunters in the low forewarning condition were less likely to report having experienced negative affect while watching The Goonies than were the blunters in the high forewarning condition. These results emerged when the children were asked how they felt while watching the scary segment.

Nonsignificant Results

Significant results for the two hypotheses did not emerge with three of the four Likert scales. Significant differences were not found for the questions of how much would you say you enjoyed, how nervous did you feel, and how scared did you feel after watching The Goonies. At the conclusion of the experiment's session, it was not suprising to have the majority of the participants report that they enjoyed or were not very

nervous after watching The Goonies. The students successfully completed watching the movie and could have been relieved that the experimental session was over. Therefore the children might have rated the film viewing as more enjoyable or not likely to have made them very nervous because they were relieved. Demand characteristics could have also influenced the "enjoyment" or "nervousness" ratings. The students might have responded with answers that they thought would please the experimenter. If this factor did operate, it only serves to highlight the significant results that did emerge in spite of such demands.

Physiological Responses

The first and the second hypothesis were supported with the skin conductance data. A main effect for the forewarning level and the monitor-blunter status was not found. As predicted however, an interaction effect emerged with less fear being recorded in the preferred forewarning condition of the monitors and blunters.

Significant results were not found with the heart rate or skin temperature data. One explanation for the lack of results could be due to the possibility that individuals respond with varying degrees of intensity with different physiological measures (Lang, 1988). For example, some individuals who are scared may show their fear with changes in heart rate and not skin temperature, whereas others respond with greater muscle tension but not heart rate. These individual differences in physiological responses could reduce the likelihood of finding a significant difference between experimental conditions with any particular physiological measure. Given this possibility, the fact that significant differences did emerge for skin conductance but not heart rate

or skin temperature is not surprising. In fact, to get significant results across subjects with any single measure is grounds for encouragement. The issue of individual response specificity has been raised in studies where physiological measures have been employed (Sparks, 1983, 1989) but it has not been tested or explored further in the communication literature. Ideally, a researcher would first discover an individual's predominant physiological response mode and then employ that particular mode for the dependent measure. Arousal scores could then be standardized prior to comparisons across subjects.

A post-hoc review of the experimental procedures illuminates two obvious and more specific "potential contaminators" of the physiological data. One factor that could have contributed to the lack of convergence between the three measures was the inability of the experimenter to control the laboratory's room temperature. An empty school classroom was used as the laboratory for the experiment and the daily temperature in the laboratory was established for the school by the school custodian. The classroom temperature typically varied from the early morning session to the late afternoon session. It also varied on a day-to-day basis and was unpredictable.

A second factor that could have contributed to the lack of convergence was that the children were recruited for the experiment during the lunch hour. Four teachers required that their students only participate during this time period. As a result of this scheduling, students participated in the study after having just eaten or after they had been playing and running on the playground. Both of these activities influence children's physiological responses -- particularly heart rate.

As a result, the baseline readings for these children may have been inflated, making it difficult to consistently observe arousal responses during the movie for every child on a given measure. The room temperature and lunch hour activities are only two examples of items that could have influenced the results. In summary, multiple contaminating sources were present in the physiological data that could have constrained the magnitude of the correlations between measures and made it more difficult to find support for the hypothesis. Nevertheless, despite the potential problems, there was still evidence in support of the first and second hypothesis from the skin conductance analysis.

Along more theoretical lines, the lack of convergence between the skin conductance, heart rate and skin temperature indicators is consistent with the observation that it may be time to abandon the global construct of arousal in favor of "more precise conceptions of specific response systems and their functional significance" (Sparks & Greene, 1992, p. 470). According to this view, each physiological indicator is governed by a separate system that responds differently to environmental events. Multiple physiological indicators to the same event should not typically be correlated if these indicators are governed by relatively autonomous physiological systems. There is growing support for this conception (Anderson, 1990; Parkinson, 1988) and the data gathered in this study are certainly consistent with the idea that arousal is not a very useful global construct.

Conclusion

The completion of this study is important because of its potential contributions in at least two areas. First, the results may have

practical implications for how parents proceed in dealing with their children's emotional reactions to frightening movies and scary television programs. Parents may need to discover the coping style preferences of their children before they attempt to utilize a general strategy like forewarning or desensitization prior to the child's exposure.

Second, this study has important theoretical implications for the literature on emotional responses to the mass media. In the original study that generated the monitoring and blunting mass media research program, Sparks and Spirek (1988) noted that one way to interpret adult monitoring and blunting differences is with the activation-arousal framework. This view contends that the bias in processing information is innate. If this is the case, then one would expect to find reliable differences in monitoring and blunting among children. The results reported above represent the first times such differences have been documented and applied in a very practical mass media context. While more evidence is needed before concluding that monitoring and blunting behaviors have an innate component, there is no current evidence that would rule out this possibility. One important part of any future research program along these lines will be first to replicate the sort of findings reported here. Only after such replication will it be possible to conclude that monitoring and blunting preferences are evident among children just as they seem to be among adults.

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Notes

[1]Of the 90 returned packets, one questionnaire was returned because the child did not speak English, two questionnaires were returned because the families relocated, and a fourth packet was returned with forms that were not complete. All of the survey respondents (N = 86) were eligible to participate in the experiment. One student did not wish to participate in the study and three students were absent.

[2]Three students' physiological responses were not included in the physiological data analyses due to electrical power failures and equipment difficulties. Thus, for the physiological measures, the distribution (N = 78) of the children's sex and age also varied slightly across the fifth and sixth grades (fifth: 10-year olds -- 9 males, 10 females; 11-year olds -- 12 males, 11 females) (sixth: 11-year olds -- 8 males, 10 females; 12-year olds -- 10 males, 8 females). A thunderstorm caused the electricity at the school to flicker on and off while the videotape was shown to two of the children. The third student's physiological data was not analyzed because the experimenter did not begin recording the child's physiological data at the beginning of the stimulus tape.

[3]The Goonies was selected as the stimulus for this experiment because this movie was frequently described in an earlier survey of children as being "scary" or "frightening" (Spirek, 1987).

[4]All of the participants (N = 82) responded to three questions about the forewarning on Likert scales that ranged from "0" to "9". These three questions served as a means of checking the forewarning manipulation. A t-test was computed for each of the three questions and statistically significant results emerged for each of the three questions. Compared to participants who heard the low forewarning ($\underline{M}$ = 2.90), those who heard the high forewarning ($\underline{M}$ = 8.81) perceived the forewarning to contain more information [$t(82) = -7.27$, $p<.01$]. Those who heard the high forewarning ($\underline{M}$ = 6.02) also reported that they had a better idea of what they "were about to see" than did those who heard the low forewarning ($\underline{M}$ = 3.63) [$t(82) = -4.23$, $p<.01$]. A significant difference also emerged for the question of how well the forewarning had prepared one for viewing The Goonies scene [$t(82) = -4.89$, $p<.01$]. Those who heard the longer forewarning ($\underline{M}$ = 5.26) reported that they were better prepared for the viewing session than those who heard the shorter forewarning ($\underline{M}$ = 2.89).

[5]The one child who was male and chose not to participate said that he did not wish to forfeit a kickball game during recess. Recess was the only time that this particular student's teacher would permit her students to participate in this study.

[6]Like the MBSS for adults, the CCM is a tool that is used to indicate monitoring or blunting preference and two procedures can be adopted in order to categorize respondents as either monitors or blunters. One way to categorize monitors and blunters is to group high monitoring with low blunting scores and high blunting with low monitoring scores. The number of circled monitoring items that comprise the monitoring subscale are summed for each of the participants and a median split is performed on the sample's

distribution of monitoring scores. High monitors are those with scores that fall within the top quartile and low monitors are those with scores that fall within the bottom quartile. This procedure is then repeated with the blunting subscale. The number of circled blunting items are summed for each of the participants and a median split is computed on the sample's distribution of blunting scores. High blunters are those with scores that fall within the top quartile and low blunters are those with scores that fall within the bottom quartile. Individuals who have both high monitoring and low blunting scores are grouped together and called "monitors" while individuals who have both high blunting and low monitoring are grouped together to form a group of "blunters". The second method for computing monitoring and blunting preference distinctions involves the computation of a difference score between monitoring and blunting items as described in the text. This method was adopted for this experiment because it used both the monitoring and blunting scores and because it permitted the use of all 86 participants (unlike the first computational method).

Table 1
Means and Standard Deviations for Subscales of the Children's Coping Measure

	Monitoring Subscale		Blunting Subscale	
	M	SD	M	SD
Low Forewarning				
Blunters (n = 19)	10.47	3.29	7.26	3.57
Monitors (n = 21)	14.67	2.75	4.76	2.17
High Forewarning				
Blunters (n = 21)	11.14	2.92	7.81	3.64
Monitors (n = 21)	14.38	2.27	5.61	3.09

Table 2
Likert Mean Ratings of The Goonies

Question	Coping Preference	Low Forewarning	High Forewarning	Level of Significance
1. SCARY	Blunters	3.37[ab]	7.03[b]	
	Monitors	4.33[b]	2.86[a]	
				p<.05
2. ENJOY	Blunters	6.62	7.03	
	Monitors	6.65	7.24	
				n.s.
3. NERVOUS	Blunters	2.56	2.80	
	Monitors	2.81	3.74	
				n.s.
4. YOUSCARED	Blunters	2.60	2.45	
	Monitors	2.16	2.71	
				n.s.

Note.
An ANCOVA with prior exposure as a covariate was computed for the individual questions in order to generate the adjusted means presented above. Means with no superscript in common for each of the questions differ at p<.05 by Duncan's Multiple Range Test (Kirk, 1968).

Table 3
Frequencies of Reports of Negative Affect While Watching The Goonies

Coping Preference	Low Forewarning	High Forewarning	Chi-Square Statistic
Monitors			
Absence of Negative Affect	11	8	
Presence of Negative Affect	8	9	
			$X^2 = .42$, 1 df, n.s.
Blunters			
Absence of Negative Affect	11	5	
Presence of Negative Affect	5	14	
			$X^2 = 6.30$, 1 df, $p<.01$

Table 4
Frequencies of Preferences for Additional Information About The Goonies

Coping Preference	Low Forewarning	High Forewarning	Chi-Square Statistic
Monitors			
No Additional Information	6	12	
Additional Information	13	5	
			$X^2 = 5.46$, 1 df, $p<.02$
Blunters			
No Additional Information	15	15	
Additional Information	1	4	
			$X^2 = 1.55$, 1 df, n.s.

Table 5
Adjusted Mean Difference From Baseline in Physiological Measures

Physiological Measure	Low Forewarning	High Forewarning	Level of Significance
Skin Conductance			
Blunters	.30[a]	3.85[cd]	
Monitors	2.73[bc]	.67[ab]	
			$p<.05$
Heart Rate			
Blunters	2.46	2.94	
Monitors	2.39	.92	
			n.s.
Skin Temperature			
Blunters	-.92	-.80	
Monitors	-2.02	-1.22	
			n.s.

Note.
An ANCOVA with prior exposure as a covariate was computed for the individual physiological measures in order to generate the adjusted means presented above. Means for each of the individual measures having no superscript in common differ at $p<.05$ by Duncan's Multiple Range Test (Kirk, 1968).